

What is claimed is:

1. A low profile implantable cardiac lead, comprising:
 - a) an elongated lead body having a proximal end portion and a distal end portion, the elongated lead body having an axial lumen therethrough;
 - b) an electrically conductive connector operatively associated with the proximal end of the lead body;
 - c) a helically wound conductor coil disposed within the axial lumen of the lead body and including at least two conducting filars in electrical communication with the electrically conductive connector;
 - d) at least one helically wound defibrillation coil disposed between the proximal and distal end portions and radially outward of the axial lumen for delivering electrical energy to cardiac tissue;
 - e) at least one cylindrical support hull disposed within the lead body radially outward of the conductor coil and radially inward of the at least one defibrillation coil, wherein a filar of the at least two conducting filars and a filar of the at least one defibrillation coil are wrapped about an outer periphery of the at least one support hull to facilitate an electrical connection between the at least one conductor and the at least one defibrillation coil; and
 - f) a tip assembly connected to the distal end portion of the lead body and in electrical communication with the conductor coil, the tip assembly having a pacing ring electrode.
2. A low profile implantable cardiac lead as recited in Claim 1, wherein the at least one support hull is electrically conductive.

3. A low profile implantable cardiac lead as recited in Claim 1, wherein at least one filar of the conductor coil and a filar of the at least one defibrillation coil are welded to the support hull, respectively.

4. A low profile implantable cardiac lead as recited in Claim 1, wherein at least one filar of the conductor coil is welded to a filar of the at least one defibrillation coil for completing an electrical connection therebetween.

5. A low profile implantable cardiac lead as recited in Claim 1, further comprising a cylindrical seal radially outward of the at least one defibrillation coil to secure the first defibrillation coil in place and prevent buckling thereof.

6. A low profile implantable cardiac lead as recited in Claim 1, further comprising a sheath radially outward of the conductor and radially inward of the support hulls for providing insulation and strength in the lead body.

7. A low profile implantable cardiac lead as recited in Claim 6, wherein the sheath is formed from a heat shrinkable polymer tube.

8. A low profile implantable cardiac lead as recited in Claim 1, further comprising:

a second helically wound defibrillation coil disposed between the proximal and distal end portions and radially outward of the axial lumen for delivering electrical energy to cardiac tissue; and

a second cylindrical support hull disposed within the lead body radially outward of the conductor and radially inward of the second defibrillation

coil, wherein a second filar of the at least two conducting filars and a filar of the second defibrillation coil are wrapped about an outer periphery of the second support hull to facilitate an electrical connection between the conductor and the second defibrillation coil.

9. A low profile implantable cardiac lead as recited in Claim 8, further comprising a second cylindrical seal radially outward of the second defibrillation coil to secure the second defibrillation coil in place.

10. A low profile implantable cardiac lead as recited in Claim 8, wherein the conductor has three filars for connecting to the at least one defibrillation coil, three filars for connecting to the second defibrillation coil and three filars for connecting to the pacing ring electrode.

11. A low profile implantable cardiac lead as recited in Claim 1, further comprising helical fixation screw connected to the tip assembly for attaching the lead body to cardiac tissue.

12. A low profile implantable cardiac lead as recited in Claim 11, further comprising a steroid-eluting ring coupled to the tip assembly for hastening recovery of the cardiac tissue.

13. A low profile assembly for delivering electrical energy to cardiac tissue, comprising:

first means having a proximal end and a distal end, the first means for defining an axial lumen therethrough;

second means extending through the lumen for carrying electrical energy;

third means disposed between the proximal end and the distal end and radially outward of the axial lumen for contacting cardiac tissue; and

fourth means disposed within the axial lumen for facilitating an electrical connection between the second and third means, the fourth means having an inner wall radially outward of the second means and an outer wall radially inward of the third means wherein portions of the second and third means are coupled to the outer wall of the fourth means.

14. A low profile assembly as recited in Claim 13, wherein the first means is an elongated lead body.

15. A low profile assembly as recited in Claim 13, wherein the second means is a multifilar coil.

16. A low profile assembly as recited in Claim 13, wherein the third means is a helically wound defibrillation coil.

17. A low profile assembly as recited in Claim 13, wherein the fourth means is a hull.

18. A low profile assembly as recited in Claim 13, wherein the portion of the second means is welded to the portion of the third means.

19. A junction for creating a low profile connection between a helically wound conductor and a helically wound electrode of a cardiac lead, the junction comprising:

a cylindrical support hull disposed within a lumen of the cardiac lead, the hull being radially outward of the conductor and radially inward of the electrode, wherein filars of the conductor and electrode, respectively, are wrapped about an outer periphery of the support hull to facilitate an electrical connection between the conductor and at least one electrode.

20. A junction as recited in Claim 19; wherein the filars of the conductor and electrode are welded to the support hull.

21. A junction as recited in Claim 20, wherein the support hull is electrically conductive.

22. A junction as recited in Claim 19, further comprising a cylindrical seal radially outward of the electrode to prevent buckling of the electrode.

23. A junction as recited in Claim 19, further comprising an insulative sheath radially outward of the conductor and radially inward of the hull.